

REMARKS

Applicants file this continuation to respond to rejections set forth in an Office Action dated June 25, 2001 (hereinafter "the Office Action") in a related grandparent application having serial number 09/389,924. The undersigned respectfully requests a telephone interview prior to issuance of an Office Action to discuss the teachings of Bantien if any pending claim is considered to be unpatentable over Bantien. Applicants believe there is a misunderstanding of the teachings of Bantien, and the interpretations of Bantien set forth in the Office Action are directly contrary to the explicit teachings of the reference itself.

Applicants hereby add new claims 71-75 and cancel claims 1-31 and 44-52. Accordingly, claims 32-43 and 53-75 are pending in the present application.

Claims 32-35, 37-43, 53-60, and 62-70 stand rejected under 35 U.S.C. 102 for anticipation by U.S. Patent No. 5,446,437, to Bantien. Claims 61 and 71 stand rejected under 35 U.S.C. 103 for obviousness over Bantien.

Referring initially to claim 32, Bantien is directed towards the fabrication of temperature sensors which are configured to monitor and provide information only with respect to the environment in which the sensor is used. **Bantien is absolutely devoid of supporting a temperature sensing device using an electronic device workpiece and sensing temperature of the electronic device workpiece which supports the electronic device workpiece as claimed in claim 32. Bantien is replete with teachings that all disclosed temperature sensors of Bantien are thermally isolated from any structure which may be considered to fairly disclose an electronic device workpiece.**

For example, initially, Applicants refer the Examiner to the teachings in col. 1, lines 65-69 of Bantien which clearly state **good thermal separation of the monocrystalline silicon structure [corresponding to the temperature sensor device] from the frame is achieved by disposing silicon nitride, silicon oxide or silicon oxinitride on a dielectric diaphragm.** Col. 3, lines 65-69 state with respect to the embodiments of Fig. 1 that the **temperature sensor has a dielectric diaphragm 13 of low temperature conductivity.** The embodiments of Fig. 2 are also thermally isolated from any electronic device workpiece by diaphragm 13.

Applicants also refer to the discussion of Bantien with respect to Fig. 3 which clearly illustrates the error of the rejection of the pending claims over Bantien. Applicants note that Bantien states that the illustration of Fig. 3 embodies the configurations of the sensors disclosed in Figs. 1 and 2 at col. 5, lines 23-25.

At col. 5, lines 13-57, it is stated that the temperature sensors 11 and 12 are located on the dielectric diaphragm 13 stretched with respect to frame 9. Lines 40-55 of col. 5 further illustrate the erroneous interpretation of Bantien in support of the rejection. **It is stated that because diaphragm 13 has a low thermal conductivity, little heat is given off from heater 16 to frame 9 and thus the diaphragm 13 is at a higher temperature which can be detected by the temperature sensors. Diaphragm 13 is maintained at a higher temperature than frame 9 by heater 16.** Bantien also states increased sensitivity of the temperature measurement provides a more sensitive, accurate and interference-free sensor. Accordingly, the diaphragm 13 clearly is essential in Bantien to

thermally isolate the temperature sensor from interference (e.g., the frame 9 or any other structure considered to correspond to a workpiece which supports the sensor).

It is further stated that if diaphragm 13 is placed into a flow of a medium (e.g., air) it transfers heat to the medium and the heat loss measured indicates a mass of medium flowing thereby. Accordingly, Bantien is directed towards thermal isolation of frame 9 from the temperature sensor to provide accurate reading of the medium using the sensor.

It follows that not only does Bantien not teach nor suggest sensing temperature of the electronic device workpiece but such an interpretation is clearly contrary to the teachings of the reference. Applicants ask why would Bantien provide sensors 11 and 12 upon a thermally insulative diaphragm 13 and heat the diaphragm 13 upon which the sensors 11 and 12 are disposed if Bantien is directed towards sensing temperature of a workpiece which supports the sensors? Such an interpretation is nonsensical and contrary to the explicit reference teachings. Bantien cannot operate to sense temperature of a supporting workpiece as claimed.

The Office Action states on page 4 in support of the rejection with reference to Fig. 2c and col. 5, lines 1-8 that "the sensor employs the temperature dependency of the electrical resistance in the monocrystalline structure." Respectfully, the monocrystalline structure 35 corresponds to the sensor itself and not a supporting workpiece. The monocrystalline sensor changes resistance responsive to change of temperature of the environment inasmuch as the sensor 35 is thermally isolated from the frame 9 or any other supporting structure by the thermally insulative diaphragm 13. Also, the Examiner states that in Fig. 2c the temperature sensor is formed on frame 9 and a diaphragm 13. Applicants disagree. Bantien is explicit that the sensor 35 is formed upon or otherwise

disposed upon the thermally insulative diaphragm 13 and is not formed on a-frame 9. Fig. 2c clearly illustrates sensor 35 disposed upon diaphragm 13 not in a thermal coupled relationship with the frame 9 or any other supporting workpiece.

In consideration of the explicit Bantien teachings, limitations of claim 32 are not taught nor suggested by the prior art and the rejection of claim 32 is in error for at least this reason. Applicants respectfully request allowance of claim 32.

The Bantien teachings identified by the Examiner as allegedly disclosing limitations of Applicants' claims do not support the anticipation rejection for at least the numerous above-mentioned reasons. In the event that a rejection of the claims is maintained with respect to the prior art, or a new rejection made, Applicants respectfully request identification *in a non-final action* of elements which allegedly correspond to limitations of the claims in accordance with 37 C.F.R. §1.104(c)(2). In particular, 37 C.F.R. §1.104(c)(2) provides that *the pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified*. Further, 37 C.F.R. §1.104(c)(2) states that the Examiner must cite the best references at their command. When a reference is complex or shows or describes inventions other than that claimed by Applicants, the particular teachings relied upon must be designated as nearly as practicable. The pertinence of each reference if not apparent must be clearly explained for each rejected claim specified. Applicants respectfully request clarification of the rejections with respect to specific references and specific references teachings therein pursuant to 37 C.F.R. §1.104(c)(2) in a *non-final* Action if any claims are not found to be allowable.

The claims which depend from independent claim 32 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

For example, dependent claim 43 recites **sensing temperature of a semiconductive wafer**. Contrary to 37 C.F.R. 1.104(c)(2), page 3 referring to the rejection of claim 43 fails to identify any teachings of allegedly sensing temperature of a **semiconductor wafer** as claimed. Page 4 of the Action states that portion 9 comprises a portion of wafer 1. Bantien discloses frame 9 being formed from a wafer 1. Bantien teaches thermally insulating the temperatures sensors from the frame 9 which provides absolutely no disclosure or suggestion of a temperature sensing device sensing temperature of a semiconductive wafer. Applicants request clarification of the rejection of claim 43 and identification of specific Bantien teachings which disclose sensing temperature of a semiconductive wafer in accordance with the C.F.R. if claim 43 is not allowed in the next Action.

Referring to claim 53, Bantien teaches thermal insulation of the sensors from the frame 9. Bantien fails to teach or suggest forming a temperature sensing device over an electronic device workpiece including ***providing the temperature sensing device in a temperature sensing relation with the electronic device workpiece***, and ***sensing temperature of the electronic device workpiece using the temperature sensing device*** as defined in claim 53. Limitations of claim 53 are not taught nor suggested and claim 53 is allowable for at least this reason.

The claims which depend from independent claim 53 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to claim 62, Bantien teaches thermal insulation of the sensors from the frame 9. Bantien fails to teach or suggest **supporting a temperature sensing device using an electronic device workpiece** and **providing the temperature sensing device in a temperature sensing relation with the electronic device workpiece** as defined in claim 62. Limitations of claim 62 are not taught nor suggested and claim 62 is allowable for at least this reason.


The claims which depend from independent claim 62 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Applicants hereby add new claims 71-75 which are supported at least by the teachings on page 15-18 of the originally-filed specification.

The Examiner is requested to phone the undersigned if the Examiner believes such would facilitate prosecution of the present application. The undersigned is available for telephone consultation at any time during normal business hours (Pacific Time Zone).

Respectfully submitted,

Dated: 2/6/04

By: 
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